

Coronavirus Covid-19 in Papua New Guinea

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Introduction

The [first coronavirus Covid-19 case](#) entered Papua New Guinea on 13 March 2020. Whether it will spread is a critical question, but it is likely. This In Brief examines two previous epidemics in PNG and then describes the population and the movements of people who will carry the virus with them, to suggest how this epidemic will develop.

Smallpox and dysentery

In 1890 a viral smallpox was introduced into a German colonial outpost just south of Madang from a German ship (Sack and Clarke 1979:81). Smallpox spread as far west as Nuku District in Sandaun Province and across Vitiaz Strait as far east as Talasea District in West New Britain. It may have spread further but oral historical accounts have not been collected. Parkinson wrote in 1900 of a mortality rate of 25 per cent on Seleo Island off Aitape and described deserted villages in the Talasea area (Parkinson 1979). Descriptions of high death rates come from Manam Island (Wedgewood 1934:73), Nuku in Sandaun Province (Lewis 1975:82) and inland East Sepik Province (Allen 1989:41–43), over 500 kilometres from Madang.

Epidemics of dysentery occurred in Astrolabe Bay in 1888; New Ireland in 1899; Manus in 1912, when 1200 deaths were reported; and in 1935 at Aitape, when dysentery spread inland through the Torricelli Mountains. Oil Search teams reported a 10 per cent death rate in some villages. Between 1943 and 1944 dysentery again spread inland from Japanese camps on the coast and death rates of 25 per cent have been estimated (Allen 1983). In the Highlands, Burton (1983) used Australian army reports to provide a detailed description of the spread of dysentery from an Australian outpost at Benabena east of Goroka, up the Wahgi Valley to Simbu and Mount Hagen. The epidemic reached Tari then beyond the army's influence. The case fatality rate was estimated at 5 per cent. The army established hospitals and used a new drug, sulphaguanidine, to treat those infected which reduced the deaths.

Both these epidemics occurred in a country with no vehicle roads. There was very little personal movement of people long

distances on foot but the infectious agents were moved from person to person and from village to village, over long distances. The Highlands dysentery spread in spite of the army and patrol officers attempting to stop people moving.

Covid-19 in PNG

It was inevitable that the Covid-19 virus would enter PNG with an infected person arriving from overseas. It was predictable they would arrive at Port Moresby, a city of at least 350,000 people. On 22 March 2020 [seven international flights](#) arrived there with more than 1600 passengers, 62 per cent from Brisbane and Cairns and 30 per cent from Singapore and Manila. But the origins of the flights do not provide information about where the passengers had been in the previous 14 days. The infected passenger who arrived on 13 March had travelled from Spain through Turkey and arrived on a flight from Singapore. It remains very difficult to predict from where the virus will come to PNG.

Anyone who brings the virus into Port Moresby will very soon come into close contact with a PNG citizen who works in a hotel or is an airport shuttle bus driver, or a security guard or a domestic worker, and who lives in one of the city's densely occupied settlements. They may live in a poorly built overcrowded house with no running water, will travel to work on a crowded PMV (passenger motor vehicle) and will buy food from a densely crowded market or supermarket. Once in Port Moresby, the virus will have plenty of opportunities to quickly spread to many residents of the city. Not enough time has yet passed to know whether the 13 March arrival has infected someone in Port Moresby but if he has it could already be out of control in the settlements.

Port Moresby is not connected by road to the rest of PNG, but has road connections to Kerema in the north-west (Hiritano Highway) and Kupiano in the south-east (Magi Highway). More people travel on the Magi Highway than the Hiritano Highway (Allen and Lowe 2006:31) and, in addition, thousands of people from the coastal villages between Port Moresby and Kwikila commute into Port Moresby daily on crowded PMVs for work or to sell fresh food in the city's markets.

Every day, large numbers of people, including the infected FIFO (fly in, fly out) man, leave Port Moresby airport on domestic flights. On one day in the week of writing, [aircraft left Port Moresby](#) for Lae (7 flights), Mount Hagen (4), Rabaul (3), Popondetta (2), and Daru, Tabubil, Komo, Goroka, Madang, Wewak, Alotau, Hoskins, Kavieng, Lihir and Buka. The number of people travelling from Port Moresby to Lae is especially important because Lae is the beginning of the Highlands Highway, the road that serves the largest number of people in PNG.

When the virus gets to Lae (100,000 people) it will be in similar conditions to Port Moresby: crowded settlements, crowded market places and streets and, in addition, thousands of people leaving daily on crowded PMVs for the Highlands, Wau and Madang. Over 3.5 million people can be reached from Lae via the Highlands Highway. The PMVs from Lae deliver people directly into the crowded markets and streets of the towns of Wau and Bulolo (13,000), Kainantu (7000), Goroka (21,000), Kundiawa (9000), Mount Hagen (30,000), Wabag (5000), Ialibu (7000), Mendi (18,000) and Tari (10,000) (NSO 2013). Madang (28,000) can also be reached from Lae via the highway. Flights to Wewak (21,000 people) give access via the Sepik Highway and the Simogun Highway to 780,000 people on the north coast, in the inland foothills and on the Sepik River. Flights to Rabaul connect to 220,000 people on the Gazelle Peninsula, where people from New Ireland regularly come to markets in boats. The flight to Kimbe provides access to the Talasea District where there are 130,000 people, many on smallholder blocks growing oil palm.

Conclusion

In the 1890s and the 1940s, PNG had few vehicle roads, yet infectious diseases spread hundreds of kilometres across the country, carried by people travelling on foot and passed on by person-to-person contacts. In 2020 thousands of people move across the country every day in crowded motor vehicles and in aircraft going directly between numerous towns, with crowded streets and markets. The Covid-19 epidemic in PNG will follow the flow of people and it will be very difficult to prevent them moving and taking the virus with them.

Notes on author

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